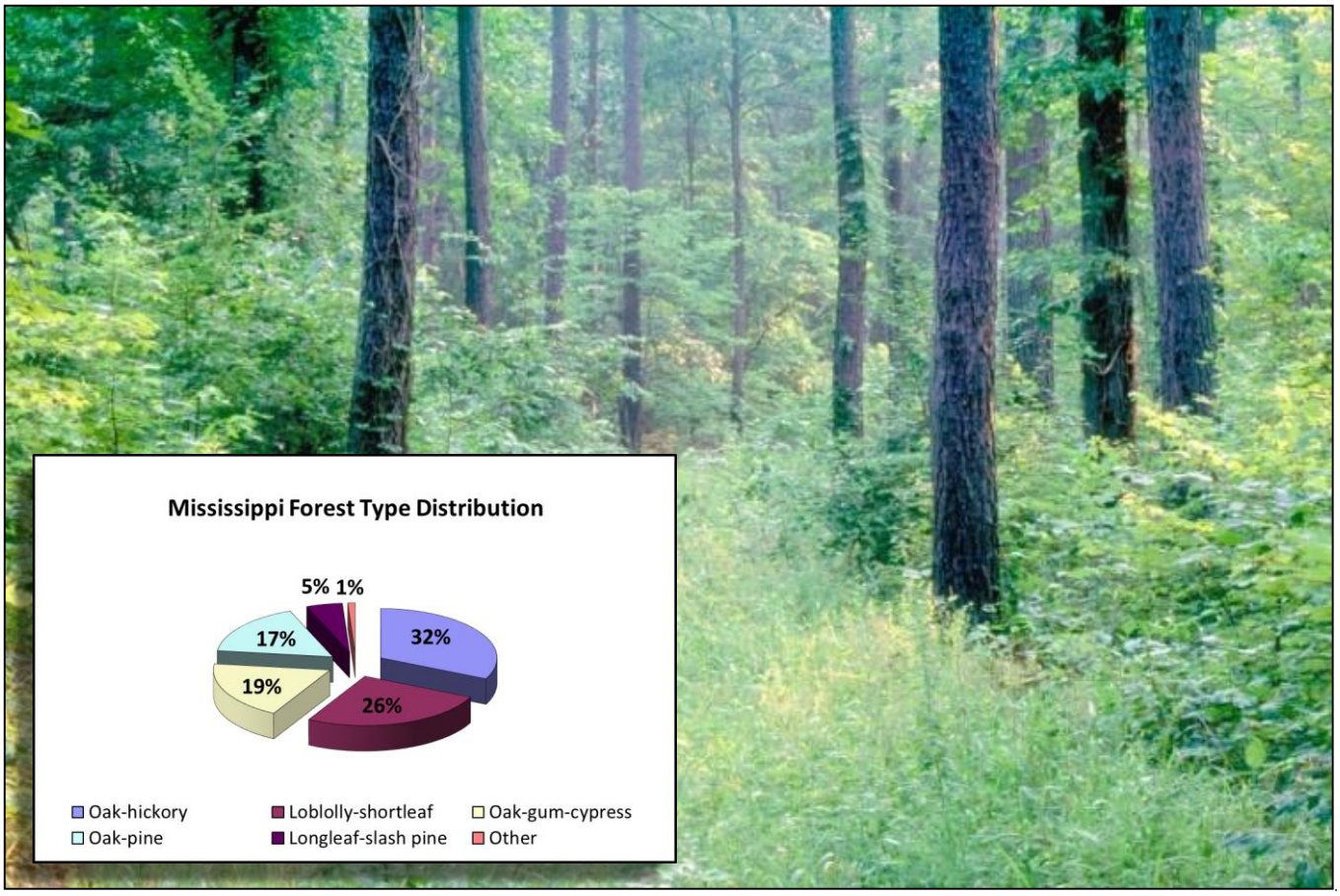
Mississippi

2018 Forest Health Highlights

The Resource

Mississippi's forests cover 19.9 million acres, more than 65% of the state's land area. Some 13.1 million acres of the states forested land is in non-industrial private ownership, while approximately 1.1 million acres are in national forests. Mississippi's forests are prized for their scenic beauty, supporting tourism and outdoor recreation and providing wildlife habitat throughout the state. Major forest types in the state include oak-hickory, loblolly and shortleaf pine, longleaf and slash pine, mixed oak-pine, and oak-gum-cypress.

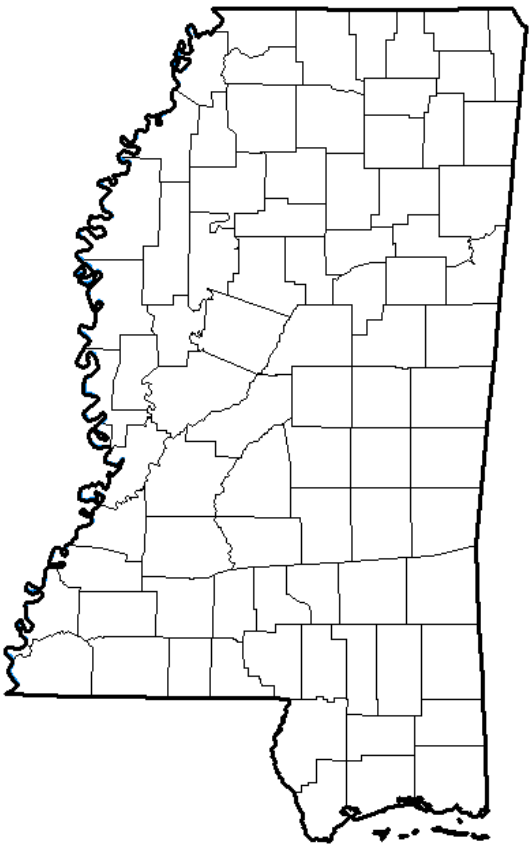


Drought

Current drought conditions have finally eased, after a multi-year, statewide drought. However, as recently as three months ago approximately 41% of the state was categorized as abnormally dry or moderately droughty. This is in stark contrast to 2015 (characterized as the worst drought in nearly 100 years), 2016 (~71% of the state being classified as "Extreme" drought), and 2017 (97% of the land area within Mississippi was classified as "abnormally dry" or "moderate drought" 12/5/2017). Current normal rainfall should begin to ease forest health impacts caused by previous droughts in well-managed, otherwise healthy forests. However, accumulated physiological stress from the previous severe drought will continue to impact Mississippi forests for years to come, especially in unmanaged forests or those with other detrimental factors in play (e.g. poor site conditions, offsite planting, lack of management, invasive species). Forest health problems common over the last few years (such as numerous drought-stressed pines succumbing to *Ips* beetles, deodar weevils, and native pine shoot beetles) that were likely brought on by drought have begun to ease.

U.S. Drought Monitor

Mississippi



November 27, 2018

(Released Thursday, Nov. 29, 2018)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week *11-20-2018*	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago *08-28-2018*	62.33	37.67	3.46	0.00	0.00	0.00
Start of Calendar Year *01-02-2018*	30.72	69.28	39.60	10.45	0.00	0.00
Start of Water Year *09-25-2018*	86.59	13.41	2.61	0.00	0.00	0.00
One Year Ago *11-28-2017*	2.72	97.28	56.80	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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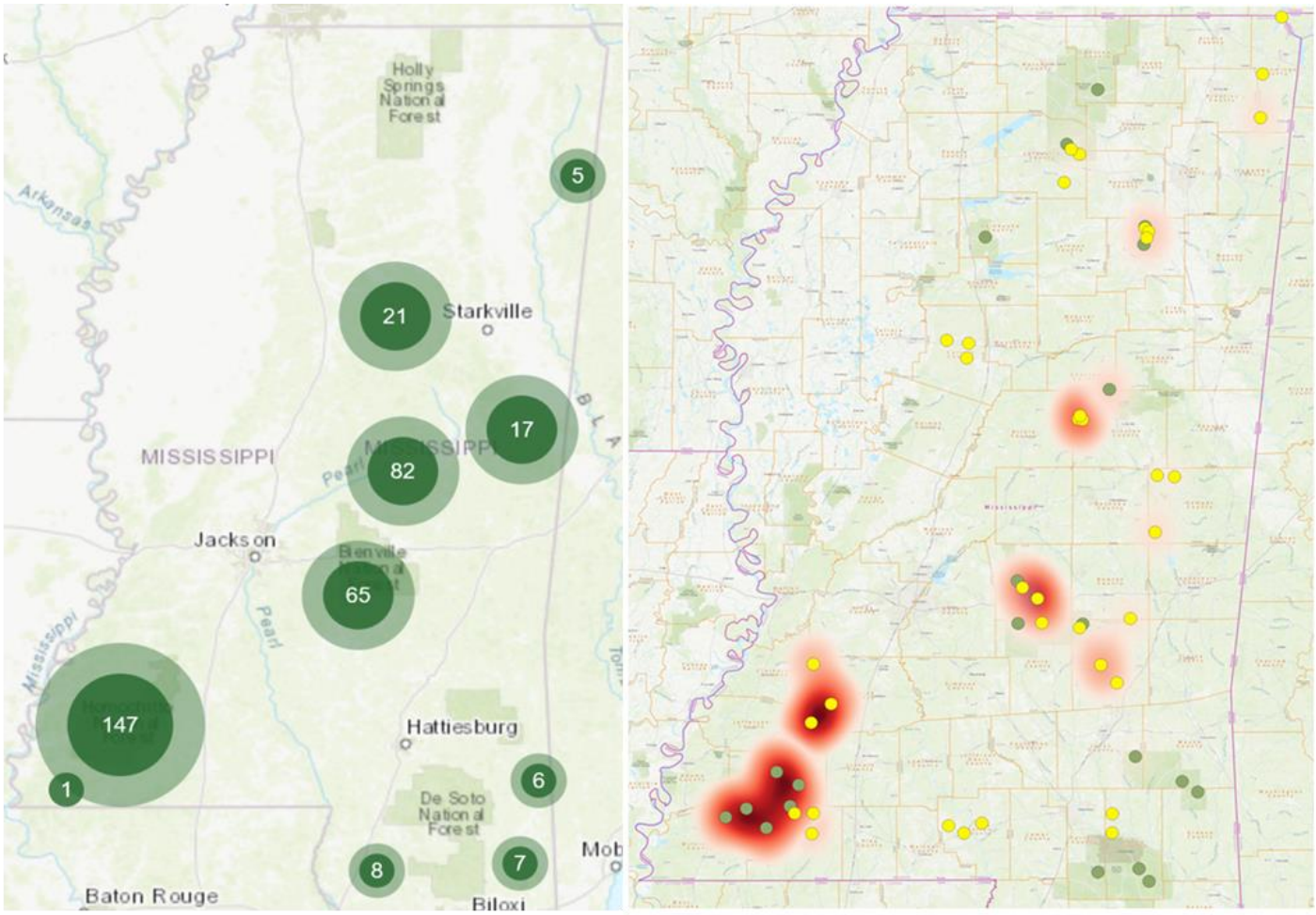
NCEI/NOAA

http://droughtmonitor.unl.edu/

Southern Pine Beetle

Annual survey flights for the State covered approximately 25 million surveyed acres. Spring trapping survey predictions for the most part correlated well with actual outbreak conditions. Southern pine beetle populations have continued to become more evenly distributed throughout the state over the last 7 years, but statewide southern pine beetle infestations have subsided somewhat since the largest outbreak in 20 years during 2017. In 2018, 275 spots were detected on private or State lands during aerial surveys, most of which were centered around Bienville and Homochitto National Forests. More than 150 landowners were notified via mail that SPB spots had been detected on their land and given contact information for help dealing with these infestations.



2018 Mississippi southern pine beetle actual infestations detected during aerial surveys (left) versus prediction of SPB activity based on the 2018 spring pheromone trapping survey.

Redbay Ambrosia Beetle

The redbay ambrosia beetle was detected for the first time in Jackson County, MS in July, 2009. This insect carries the fungus that causes Laurel Wilt Disease. Since its introduction to the Southeast, it has caused considerable mortality to redbay, swamp bay, sassafras, avocado, and other species of trees and shrubs in the Lauraceae. Current distribution records indicate the disease is present from North Carolina to Florida, westward to newer established populations in north-central Louisiana and eastern Texas. The infestation in Mississippi continues to expand, and is now present throughout the majority of Jackson Co., and portions of George and Harrison Counties in redbay, swamp bay, sassafras, as well as camphor tree. In 2015, laurel wilt was also confirmed in Stone and Perry Counties, and in 2016 was confirmed in Forrest County, MS. Collaborative research between MSSTATE, MFC, and the USDA Forest Service Region 8 FHP has led to the conclusion that the beetle was likely spread to Mississippi by human movement of infested materials from beetles along the Atlantic Coast of the U.S., rather than through a separate introduction through a local port. Cold tolerance of the vector suggests that nearly all sassafras trees in the U.S.A. are at risk from invasion and mortality due to redbay ambrosia beetle and its fungal symbiont. Additional research indicates more than two dozen native insect herbivores could be seriously impacted by LWD killing their hosts, as exemplified by a 7-fold decrease in Palamedes swallowtail butterflies in south Mississippi within a few years of LWD infestation.

Southern pine beetle (SPB) Prevention Program

The MFC, in cooperation with Mississippi State University (Mississippi State University Extension Service, Forestry and Wildlife Research Center, and Mississippi Agricultural and Forestry Experiment Station), and the USDA Forest Service Forest Health Protection Southern Region continues to administer a comprehensive SPB Prevention/Education Program to teach landowners about the benefits of thinning for the reduction of SPB hazard. In addition to the educational aspects of this program, there is an associated statewide cost-share program to assist landowners in getting the pre-commercial and 1st commercial thinning accomplished.

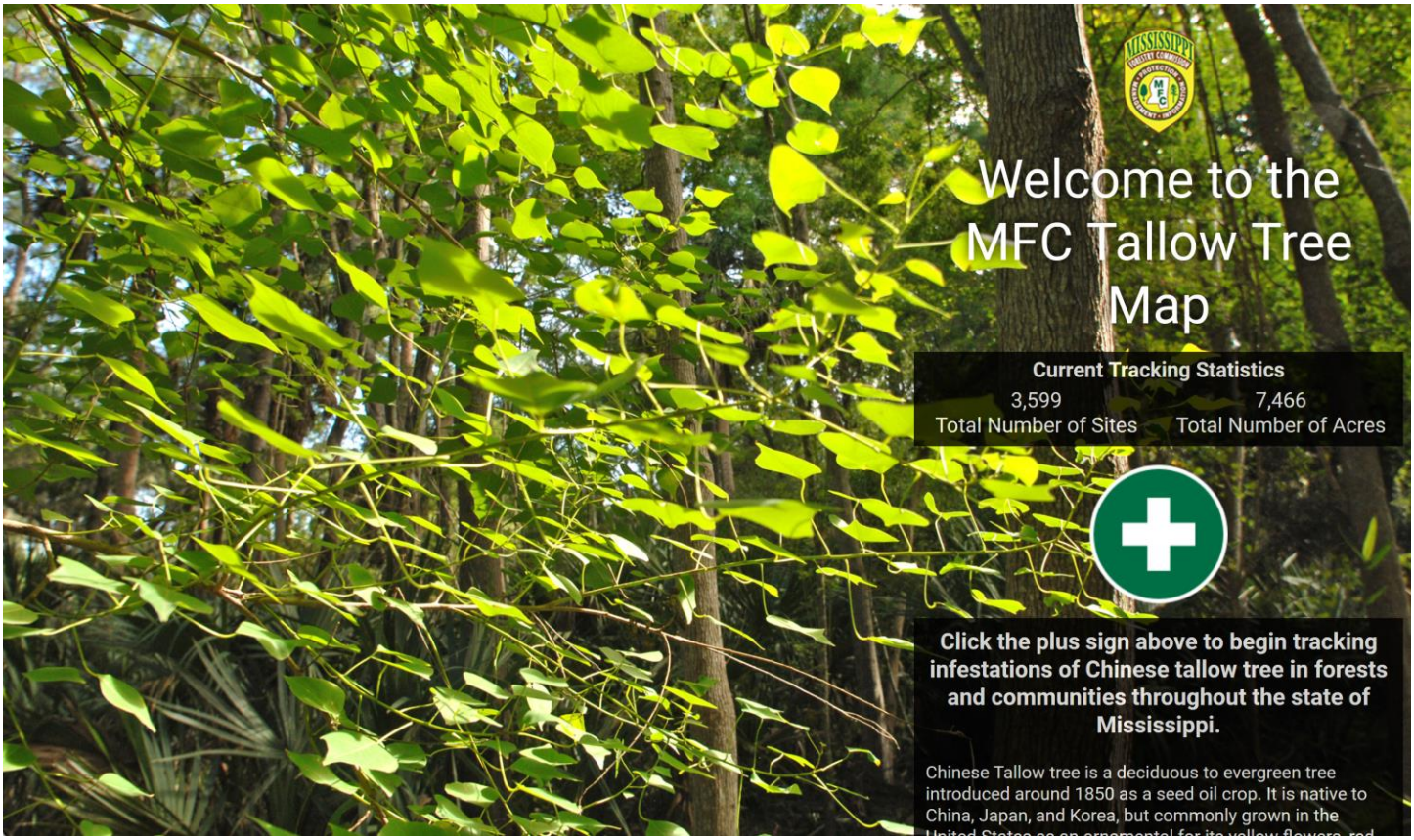
Presently under the active grant years of 2016 – 2018, we have 4,161 acres signed up for thinning, with a total of $317,350 obligated in funds that will go to landowners after they have completed the thinning projects on their properties.

Cogongrass is a non-native, invasive plant that has been spreading aggressively in Mississippi in recent years. It takes over native grasses and vegetation and is a fire hazard under pine plantations. The severity and extent of infestations have increased considerably in the disturbed forests following hurricane Katrina in 2005. The MS Forestry Commission has been funded for several years by the USFS under their redesign grants to continue the fight against this invasive weed. To date (since 2010), we have treated 4,475 acres for 2,224 landowners, with $1,497,108 going directly for treatments for landowners. Under this program, there is no cost to landowners for this service. The agency has continued efforts this year while working primarily in Lamar and Forrest Counties. It should be noted that the further south crews advance, they are treating larger spots with increased density. Current cost per acre to treat cogongrass under this program averages approximately $400 per acre.

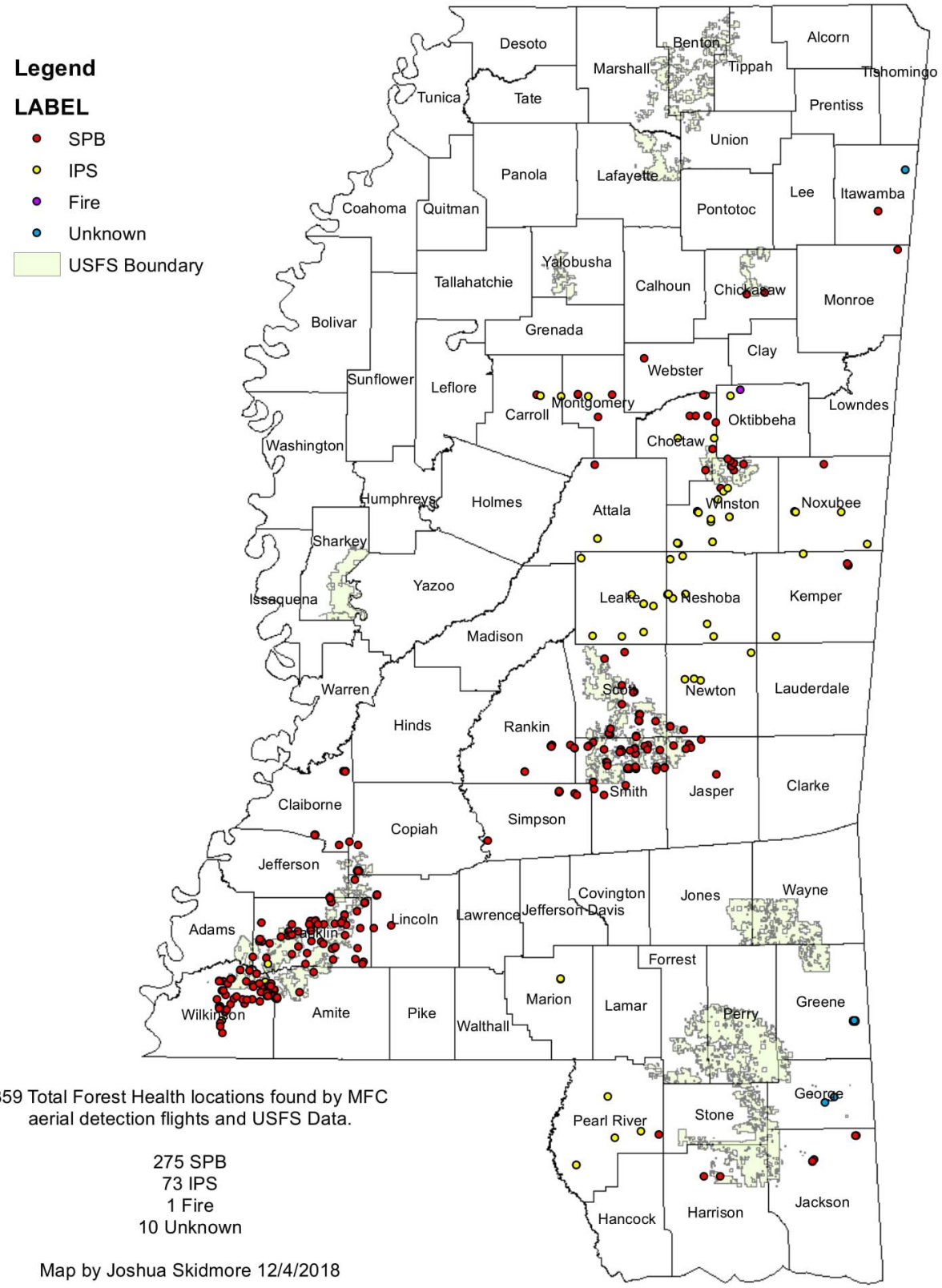
Chinese Tallow Tree is another non-native, invasive plant that has been spreading aggressively in Mississippi. Chinese tallow is a popular ornamental because of its fast growth rate, attractive fall color, and ability to resist damage from pests. The Chinese tallow trees has flowers that are attractive to bees and other insects. It produces three-lobed capsule fruit that ripens from August to November. They are deciduous with a strong, deep taproot. This enables young trees to withstand periods of drought. Seeds are spread by birds, and moving water.

Hurricane Katrina likely added to the increased rate of spread for this invasive. Chinese tallow can invade almost all habitats from wet to dry and from sun to shade. It often grows along roadsides, coastal areas, and streams. Some specimens can produce up to 100,000 seeds that may be eaten and dispersed by birds. Regrowth often occurs from cut stumps or roots. Native species are crowded out once Chinese tallow becomes established. The leaves and fruit are toxic to cattle and cause nausea and other sicknesses in humans.

With the help of LaSR funding, the Mississippi Forestry Commission was able to develop a web-based app that allows the agency to crowd source mapping of this plant statewide. The site HelpStopThePop.com has been extremely successful and continues to generate a lot of interest. To-date, the public has reported 3,599 sites totaling nearly 7,500 acres statewide. The MFC has also partnered with five (5) municipalities to provide herbicide and training to city personnel and volunteers for treating Chinese Tallow on public property.


Welcome to the MFC Tallow Tree Map
Current Tracking Statistics
3,599
Total Number of Sites
7,466
Total Number of Acres
Click the plus sign above to begin tracking infestations of Chinese tallow tree in forests and communities throughout the state of Mississippi.
Chinese Tallow tree is a deciduous to evergreen tree introduced around 1850 as a seed oil crop. It is native to China, Japan, and Korea, but commonly grown in the

2018 Forest Health Occurence Map



359 Total Forest Health locations found by MFC aerial detection flights and USFS Data.

275 SPB
73 IPS
1 Fire
10 Unknown

Map by Joshua Skidmore 12/4/2018

Forest Health Assistance in Mississippi

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